

REMARKS

The applicants thank the Examiner for the thorough examination of the application. No new matter is believed to be added to the application by this amendment.

Status of the Claims

Claims 1-25 are pending in the application. Claims 1-8 have been withdrawn from consideration by the Examiner. Claim 21 has been amended to improve its language without reducing its scope. Claim 22 finds support at page 6, lines 20-22 of the specification. Claim 23 finds support at page 7, lines 20-24 of the specification. Claim 24 finds support in the sentence bridging pages 7 and 8 of the specification. Claim 25 finds support at *inter alia* page 6, line 11 of the specification.

Issues Under 35 U.S.C. §112

In paragraph 3 of the Office Action, the Examiner asserts that the term “applying an electroluminescent material to **each** land of the convex portions of the molding plate” is not literally supported by the specification, but would be “instantly envisioned” by one of ordinary skill. However, Figures 2 and 3 of the application show a roller 4 bearing a molding plate 6 with lands 12 contacting an EL polymer material 16 on a roller 8. Rotating the rollers 4 and 8 as

indicated by the arrows will necessarily have each of the lands 12 come in contact the electroluminescent material.

Also, the specification at page 6, lines 20-23 states: "As shown in greater detail in Fig. 3, the lands 12 contact the polymer supply roller 8, which is coated with the EL polymer solution 16, and are uniformly coated with the EL polymer solution 16 to a desired thickness (e.g., less than 1000Å)." That is, if all the lands are uniformly coated, then each land is uniformly coated as well. As a result, the Applicants believe that the "each land" limitation is explicit in the disclosure of the invention.

Rejections Based on Pei

Claims 9 and 17 are rejected under 35 U.S.C. §103(a) as being obvious over Pei (U.S. Patent 5,682,043) in view of Wright (U.S. Patent 3,661,081). Although the Examiner refers to §102(e), the wording and context of the rejection clearly indicate that §103(a) was intended. The Examiner also cites Ireton (U.S. Patent 4,611,539) to support the aforesaid rejection.

The Examiner adds Himeshima (U.S. Patent 6,592,933) to the aforesaid rejection over Pei and Wright to reject claim 10 under 35 U.S.C. §103(a). The Examiner also rejects claims 11-16 and 20 under 35 U.S.C. §103(a) over the combination of Pei, Wright, Himeshima and Shinoda (U.S. Patent 5,674,553). The Examiner further rejects claim 19 under 35 U.S.C. §103(a) over the combination of Pei, Wright, and Mourrellone (U.S. Patent 4,542,693). The

Examiner additionally reject claim 21 under 35 U.S.C. §103(a) over the combination of Pei, Wright, Himeshima and Shinoda (as applied to claim 11) further in view of Nagayama (U.S. Patent 5,701,055).

The Applicants respectfully traverse all the above rejections.

The Present Invention and its Advantages

The present invention pertains to a novel method of patterning electroluminescent devices. The invention finds a typical embodiment in claim 9, which sets forth:

9. A method of patterning an electroluminescent display which comprises:
 - providing a molding plate disposed on a molding roller, said molding plate containing a plurality of convex and concave portions, said convex portions defining lands;
 - applying an electroluminescent material to each land of the convex portions of the molding plate; and
 - printing the electroluminescent material from the molding plate onto a substrate by rotating the molding roller so that the land on each convex portion contacts the substrate.

The inventive fabricating method is suited for EL display technology. For example, barrier ribs are used to prevent membrane spread of the EL material (claim 11). The EL material has a thickness of less than 1000 angstroms (claim 22). The inventive lands are applicable because of the smoothing of the EL surface and a subsequent heat treatment (claims 23 and 24).

Distinctions of the Invention Over the Prior Art

Pei pertains to electrochemical light-emitting devices. The Examiner turns to Pei at column 10, lines 14-28, which discusses a polymer electrolyte

and a semiconductor polymer that may be processed using "flexographic printing." This "flexographic printing" disclosure of Pei fails to disclose any of the materials and method steps set forth in claim 9.

The Examiner turns to Ireton as evidence to support the disclosure of Pei. Ireton pertains to a device and method for the precision mounting of flexible printing plates. Ireton fails to disclose lands (i.e., convex and concave portions) or a technology that pertains to the production of EL devices. Figures 3 and 4 of Ireton show a plate having printing characters 12 and locator holes 20 surrounded by unetched plate material 18. As a result, Ireton only shows a technology suited for printing and not for forming EL devices.

The Examiner then turns to Wright. Figure 1 of Wright shows a flexographic printing apparatus in which a flexible relief plate 4 has raised areas 5 and depressed areas 6 for printing a flexible paper or other web 1. Wright at the paragraph starting at column 3, line 34 states:

A paper or other web 1 to be printed, is passed around a cylinder 2, known as an impression cylinder, the position of which cylinder is adjusted in relation of the plate cylinder to allow the raised areas 5 of a flexible relief printing plate 4 to contact the surface of the web 1 while the depressed areas 6 of such flexible relief plate 4 do not contact the surface of the web 1.

Printing on the flexible web 1 of Wright is utterly different than forming an EL device on a rigid glass substrate, as in the invention (see claims 9 and 25). As a result, combining Wright with Pei (and inspired by Ireton) would fail to motivate one having ordinary skill to form an EL device on a **substrate**, as is

set forth in independent claim 9. As a result, a *prima facie* case of obviousness has not been made over claim 9. Claims dependent upon claim 9 are patentable for at least the above reasons.

The Examiner turns to Himeshima for teachings pertaining to barrier ribs. The Examiner admits the Himeshima fails to disclose barrier ribs between pixels. The Examiner turns to Shinoda for teachings pertaining to spacers and EL layers of EL devices. The Examiner turns to Mourrellone for teachings pertaining to ink uniformity. The Examiner turns to Nagayama for teachings pertaining to alternate spacers and EL layers.

However, none of Himeshima, Shinoda, Mourrellone and Nagayama addresses the inability of the combination of Pei (evidenced by Ireton) and Wright to suggest the invention. A *prima facie* case of obviousness has thus not been made over any of the combinations of Pei and Wright with Himeshima, Shinoda, Mourrellone and Nagayama.

These rejections are accordingly overcome and withdrawal thereof is respectfully requested.

Prior Art

The prior art cited but not utilized by the Examiner indicates the status of the conventional art that the invention supercedes. Additional remarks are accordingly not necessary.

Foreign Priority

The Examiner has acknowledged the perfection of foreign priority.

Drawings

The Examiner is respectfully requested to indicate whether the drawing figures are acceptable in the next official action.

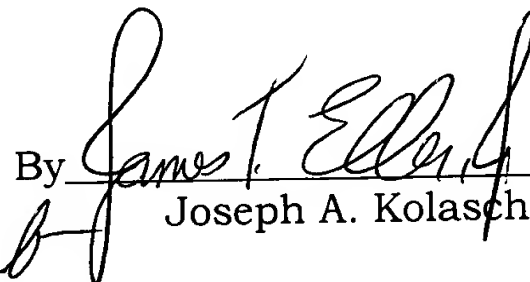
Conclusion

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Mr. Robert E. Goozner, Ph.D. (Reg. No. 42,593) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By  #39,538
Joseph A. Kolasch, #22,463


JAK/REG:jls

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000